

## ABSTRACT OF DISCLOSURE

The present invention is a system that uses natural user position and natural user motion to position and layout interface elements for a pen-based computer display. Graphical user interfaces, such as a slider or menu, are popped-up at a position convenient to the user, such as at the current position of the cursor. A rectilinear interface is oriented along a natural motion arc of the user, such as an elbow arc. An arc shaped interface can also be positioned along a natural motion arc, such as the elbow arc, and be shaped according the elbow are or be shaped by another natural motion arc such as a wrist arc of the user. The interface arc, whether shaping or orienting the interface, can be a single motion arc, such as an elbow arc, a composite arc of an elbow arc and a wrist arc, a sequence of an elbow arc and a wrist arc, a compound arc where an elbow arc blends into a wrist arc or an arc followed by a linear interface section.